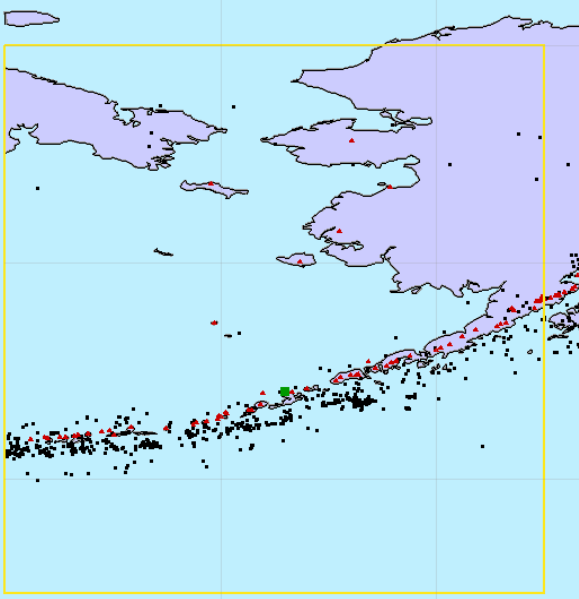
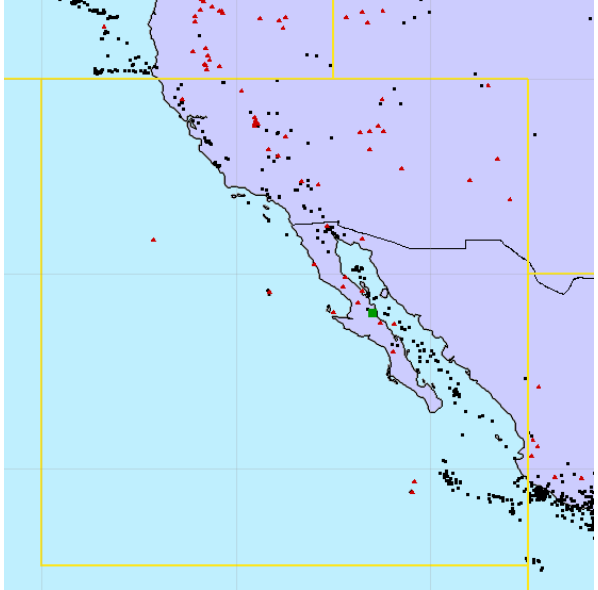
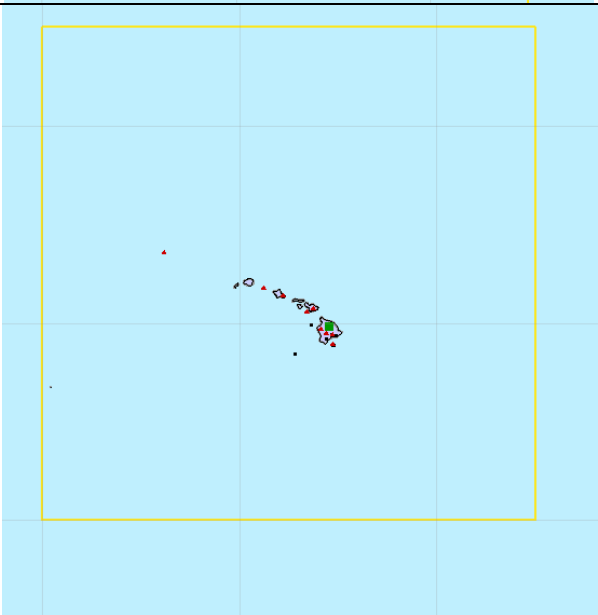
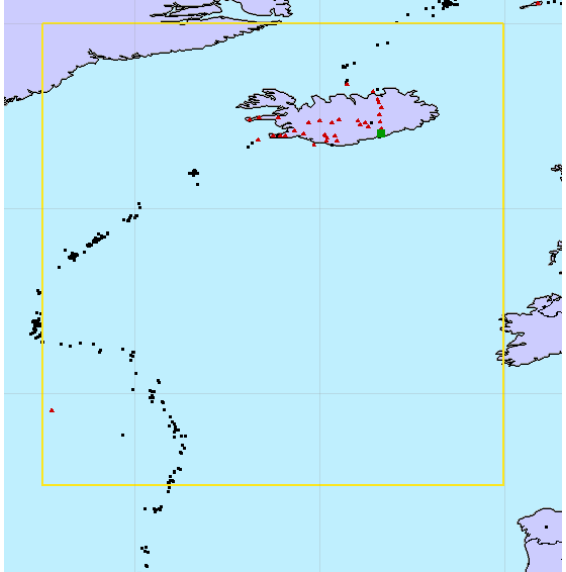
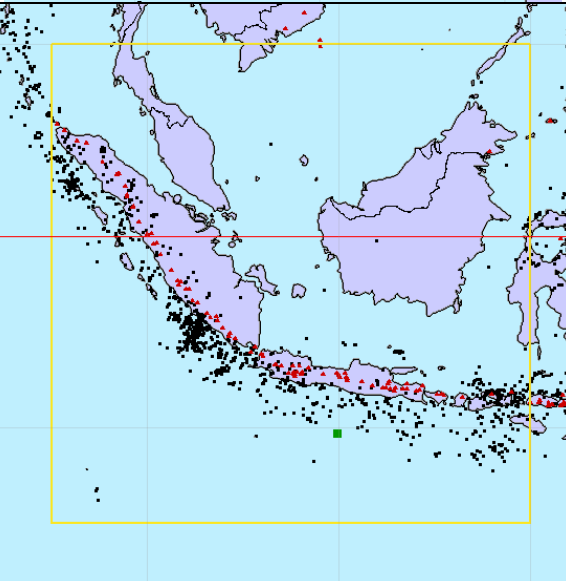


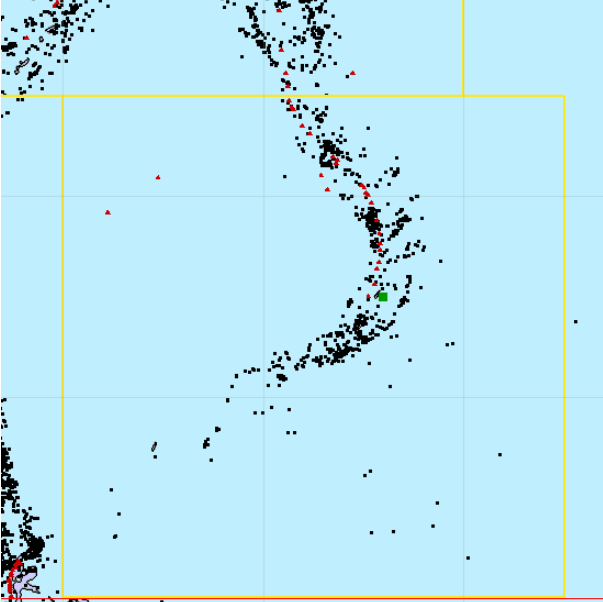
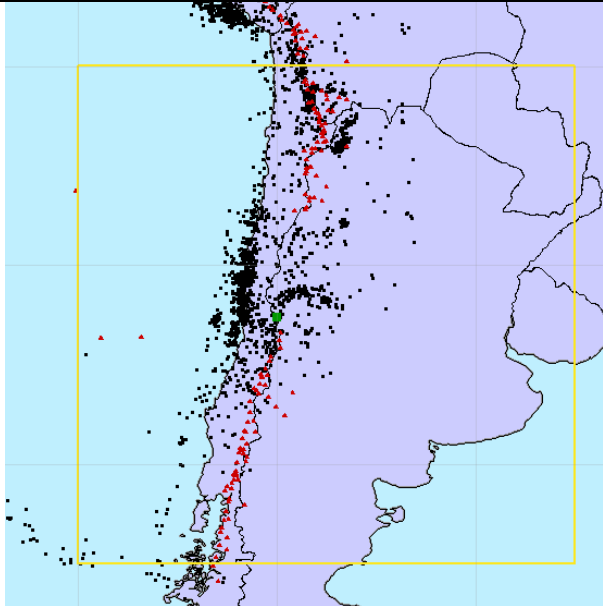
Teacher questions to prompt student observations of patterns:

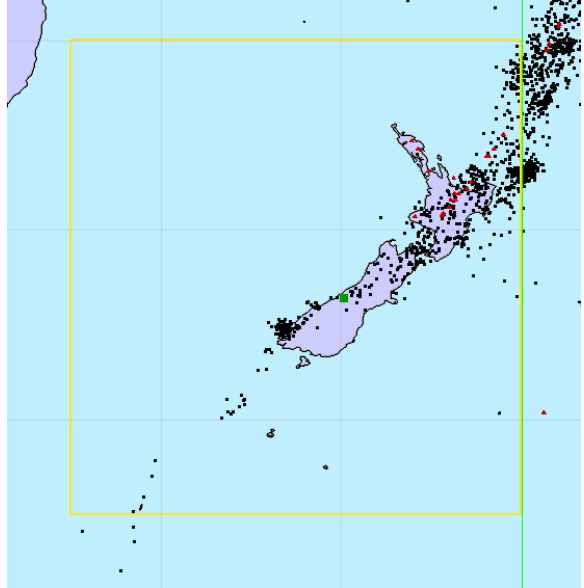
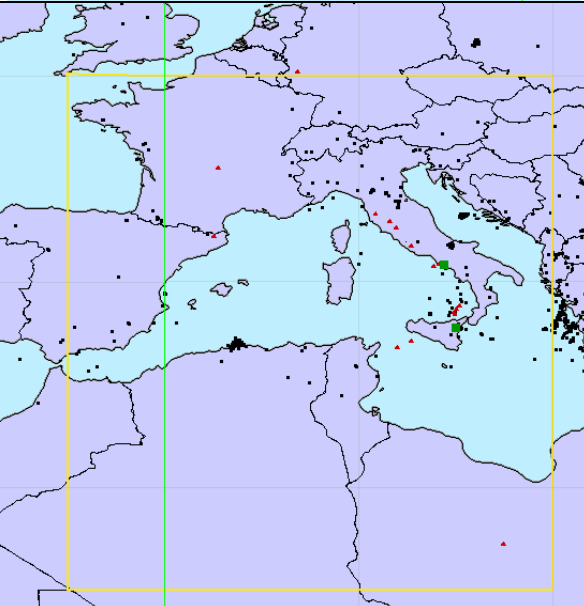
- Describe the earthquake pattern. (*Learning Segment 5.6*)
- Describe the volcano pattern. (*Learning Segment 6.5*)
- Describe the volcano pattern in relation to the earthquake pattern. Is the volcano pattern parallel to (next to) the earthquake pattern? Scattered among the earthquake pattern? Far away from the earthquake pattern?
- Describe the topography of the region. Are the mountains volcanic? Are the mountains or highest elevations in a narrow band? A wide band? Scattered over a broad area? Clustered in one spot? Under water or on land?
- Are there multiple patterns in the region of the earth structure? Where? Describe them?

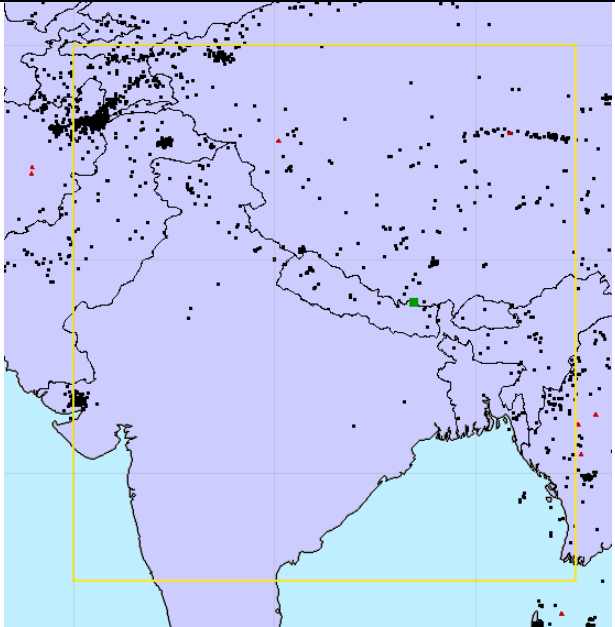
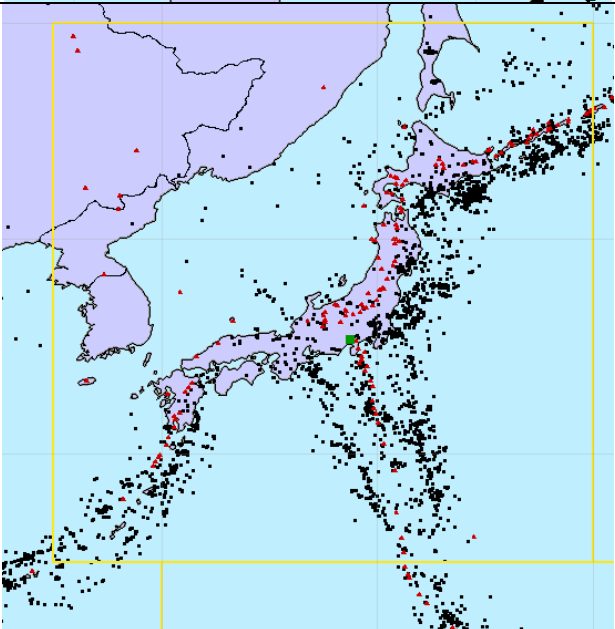
Suggested volcano pattern in relation to the earthquake pattern and topography Learning Segment 7.1		
Structure	Map <i>Each map has three years of medium earthquakes (4.0-5.9) plotted in black and volcanoes plotted in red.</i>	Pattern
Aleutian Islands		A narrow line of volcanic islands and mountains parallel to a narrow band of earthquakes. Some of the volcanoes are on the land and others are under the water. There is one pattern in the region.

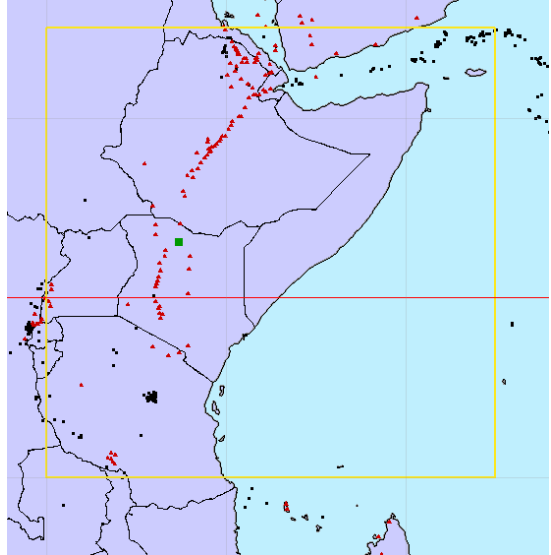
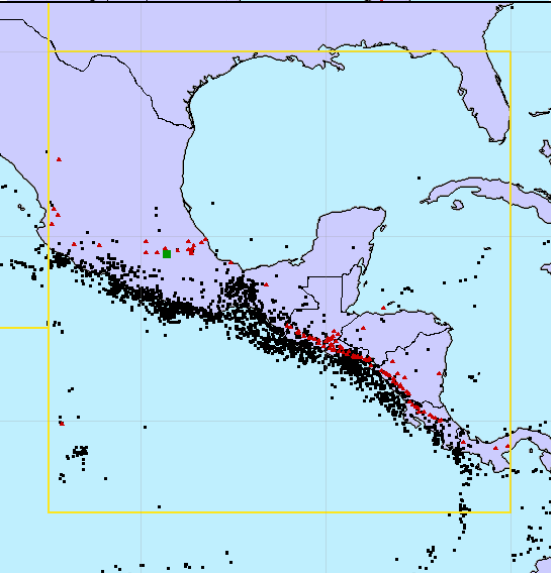
<p>Baja Peninsula</p>		<p>Near the peninsula there are few volcanoes scattered on one side of the narrow line of earthquakes. In the north part of the region, California, the volcanoes seem scattered without a clear earthquake pattern. Mountains are volcanic but are rather flat and short.</p>
<p>Hawaiian Islands</p>		<p>A cluster of volcanic activity near the islands but far away from the plate boundaries. Few earthquakes; probably related to volcanic activity. Volcanic island in the middle of a large plate.</p>

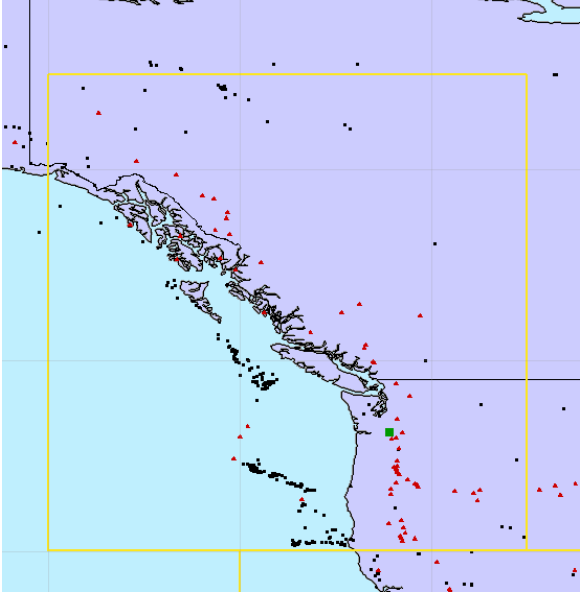
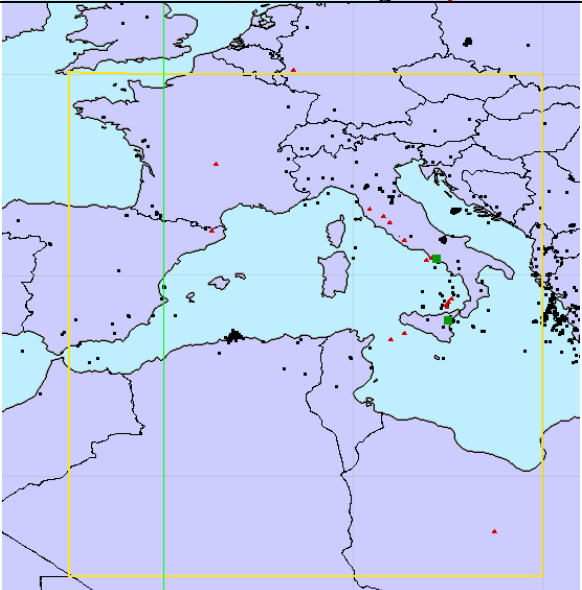
Iceland		<p>Volcanoes are clustered on the island. Throughout the rest of the region there is a scattering of few volcanoes on either side of a narrow line of earthquakes. Underwater volcanoes have been described in this region, giving birth to new islands. Iceland is a relatively flat island that gradually grows out of the ocean floor.</p>
Java Trench		<p>There is a narrow line of volcanoes on the north-east side of a narrow band of earthquakes. The narrow band of islands and mountains are volcanic and sit next to a deep ocean trench. There is one pattern in the region of this earth structure.</p>

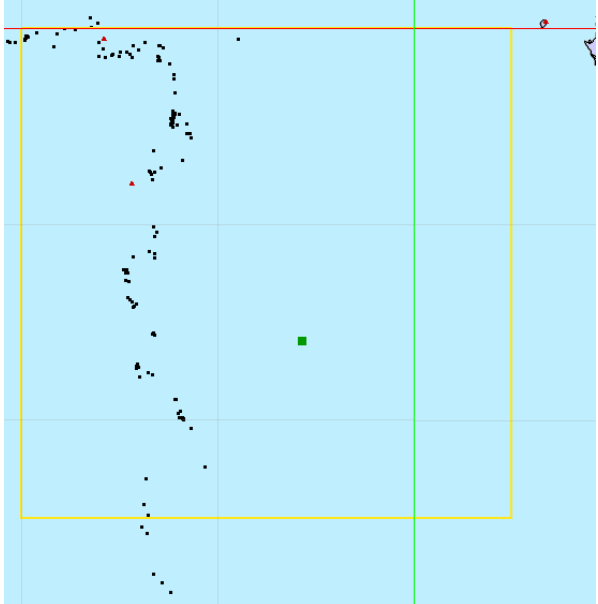
Mariana Trench		<p>There are lots of volcanoes in this region that are parallel to and to one side of the narrow band of earthquakes. There is a narrow band of volcanoes that parallel these data patterns and a deep ocean trench.</p> <p>In the south both the earthquake and volcano patterns are more scattered, and the topography is more gradual in change.</p>
Mt. Aconcagua		<p>There is a narrow line of lots of volcanoes to the east and parallel to a narrow band of earthquakes. A narrow band of steep mountains rise from a deep ocean trench. There seems to be one pattern along the coast of South America.</p>

Mt. Cook		<p>On the north island there seems to be a narrow line of volcanoes parallel to and to the north-west of the narrow band of earthquakes. The mountains are volcanic in nature.</p> <p>On the south island there do not seem to be any volcanoes among the scattering of earthquakes.</p>
Mt. Etna		<p>Few volcanoes are scattered among the broad band of scattered earthquakes in the region.</p> <p>Mt. Etna is part of a large, broad mountain range though it is located on an island off the coast of Italy. Through Mt. Etna is volcanic not all mountains in the region are volcanic.</p>

Mt. Everest		<p>Few scattered volcanoes in a broad band of scattered earthquakes. Mt. Everest is part of a large, broad mountain range. Volcanoes and earthquakes happen on the land. Not all the mountains are volcanic. There seems to be one pattern in the region.</p>
Mt. Fuji		<p>A narrow line of volcanoes parallel to and to the west of a narrow band of earthquakes. Mt. Fuji is part of a narrow chain of steep volcanic islands and mountains that rise from a deep trench.</p>

<p>Mt. Kilimanjaro</p>		<p>There is narrow line of lots of volcanoes with a scattering of earthquakes. This narrow line of volcanic mountains is fairly gradual in elevation change and mostly on land.</p>
<p>Mt. Popo</p>		<p>In the north region there seems to be a scattering of volcanoes parallel but not right next to a narrow band of earthquakes. In the south there is a narrow line of volcanoes to the northeast of a narrow band of lots of earthquakes. There are lots of steep volcanic mountains next to a flat plain in the north.</p>

Mt. St. Helens		<p>There is a volcano pattern parallel to the coast but not parallel to the scattering of earthquakes in the region nearest Mt. St. Helen. In Canada, in the north part of this region, there seems to be a narrow band of scattered volcanic activity. There also seems to be some linear patterns of earthquakes in the water with a scattering of volcanoes.</p>
Mt. Vesuvius		<p>Few volcanoes are scattered among the broad band of scattered earthquakes in the region.</p> <p>Mt. Vesuvius is part of a large, broad mountain range. Though Mt. Vesuvius is volcanic, not all mountains in the region are volcanic.</p>

<p>St. Helena Island</p>		<p>There is a scattering of few volcanoes on either side of a narrow line of earthquakes. Near the earthquakes there is a narrow ridge of shallow underwater mountains. The mountains and islands in the region are all volcanic in nature, though many are no longer active, especially as you get farther away from the earthquake pattern (rift).</p>
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